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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/245,288 02/05/99 MURATA

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EXAMINER

DIETRICH, M

ART UNIT

PAPER NUMBER

2514

DATE MAILED:

06/20/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/245,288

Applicant(s)

MURATA, AKIHIRO

Examiner

Michael Dietrich

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 19-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims 1-12 19-25 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☒ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12, drawn to semiconductor device, classified in class 257, subclass 698.
- II. Claims 19-25, drawn to a method of making a semiconductor device, classified in class 438, subclass 106.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the substrate can be formed on the leads. In that the leads can be formed on the external connection leads and the leads can than be formed on the substrate. The rejoining request of the method claims is only an issue if there is allowable device claims, and since there is no allowable device claims the method claims will not be rejoined.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson et al.

Thompson et al discloses a substrate 16 having a mounting surface for mounting a semiconductor device 10. A plurality of leads 20 are formed on the mounting surface and a plurality of conduction sections 23 are electrically connected to the leads 20 and provide an external terminal.

In regards to claims 2 and 8, the substrate 16 contains through holes 24 which have conductive internal surfaces, and are connected to the leads 20. The internal surfaces of the through holes 24 define conductive sections as the substrate 16 is cut along the corresponding through holes 24 (see fig 1).

In regards to claims 3, 4, 9 and 10, conduction sections 23 are electrically connected to the leads 20 by the conductive through holes 22/24.

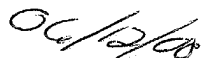
In regards to claims 5 and 11, the leads 20 radially extend from a peripheral area toward the central area of the substrate 16.

In regards to claims 6 and 12, the semiconductor device is connected to a circuit substrate 25.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Mike Dietrich** at **(703) 305-0381** and between the hours of 8:00 AM to 4:00PM (Eastern Standard Time) Monday through Friday or by E-mail via **Michael.Dietrich@uspto.gov**. The Art Unit 2814 **Fax Center number** is **(703) 308-7722; -7724**. Primary Examiner Don Monin can be reached at (703) 308-4895. Any inquiry of a general nature or relating to the status of this application should be directed to the **Group 2800 Receptionist** at **(703) 308-0956**.

Patent Examiner



Michael C. Dietrich

Donald L. Monin, Jr.
Primary Examiner